

**Report on the Activities of  
the Project on Synergized Standard Operating Procedures (SSOP) for  
Coastal Multi-hazard Early Warning System in 2015**

(Item 4 of Tentative Program for TC 48<sup>th</sup> Session)

(Submitted by TCS)

**ACTION REQUIRED:**

This Committee is invited to:

- a) Review the activities of implementation of SSOP-I in 2015
- b) Approve the proposal of SSOP-II submitted to ESCAP at TC 10<sup>th</sup> IWS

**APPENDIXES:**

- I. DRAFT TEXT FOR INCLUSION AT SESSION REPORT
- II. Report on the Activities in 2015 and overall Assessment for SSOP-I
- III. Briefing the proposal for SSOP-II submitted to ESCAP at TC 10<sup>th</sup> IWS

## APPENDIX I

### DRAFT TEXT FOR INCLUSION AT SESSION REPORT

#### 4.3 ESCAP Funding Project -- SSOP

1. The Session was informed the activities and progress of the The Project on Synergized Standard Operating Procedures (SSOP) for Coastal Multi-hazard Early Warning System. The details can be found in the **Appendix ??**.
2. The Session noted the remarkable achievement of SSOP-I and expressed its highest appreciation to ESCAP for great support to this project. The Session also recognized the importance to spread the achievement and results to the regions of TC and PTC, even outside of the region.
3. The Session reviewed the proposal of SSOP-II which was submitted to ESCAP at TC 10<sup>th</sup> IWS by TCS. The details can be found in the **Appendix ??**.
4. The Session noted with pleasure that TCS made its efforts on the Proposal. The Session also requested the Working Groups, in cooperation with TCS, to proceed with the project of SSOP-II should funds become available.

## APPENDIX II

### Report on the Activities in 2015 and overall Assessment for SSOP-I

The Project on Synergized Standard Operating Procedures for Coastal Multi-hazard Early Warning System (SSOP) was first one in the Committee with linkage of two regional bodies under ESCAP Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and Southeast Asian Countries.

In 2015, under the guidance of ESCAP and Steering Committee of the project, Typhoon Committee Secretariat (TCS), in cooperation with the Panel of Tropical Cyclones (PTC) and strong support from AWG members, project manager/technical advisor, and Working Groups and the task force of the project, made its great efforts on implementation of SSOP and achieved expected goals. The project made the remarkable achievements and successfully terminated in May 2015.

#### A. The main activities of SSOP-I conducted in 2015:

1. Consultancy Mission Reports for Mission On Hands-On Training and Technical Assistance on Interpretation, Preparation, and Improvement of SOPs for Users and Issuers for PTC Countries:
  - a) Male, Maldives, 18-20 January 2015
  - b) Dhaka, Bangladesh, 22, 25-26 January 2015
  - c) Nay Pyi Taw, Myanmar, 28-30 January 2015
2. Consultancy Mission Reports for Mission On Hands-On Training and Technical Assistance on Interpretation, Preparation, and Improvement of SOPs for Users and Issuers for TC Countries
  - a) Phnom Penh, Cambodia, 19-21 January 2015
  - b) Vientiane, Lao PDR, 23, 26-27 January 2015
  - c) Manila, Philippines, 29-30 January, 2 February 2015
3. Conducting project evaluation and submitted the Evaluation Report and its Brief for SSOP project to ESCAP.
4. Publishing the Manual and Quick Reference Guide on Synergized Standard Operating Procedures (SSOPs) for Coastal Multi-Hazards Early Warning System and distributed two publications to Members and related international/regional organizations.
5. Conducting the project auditing and submitted the Audit Report for Synergized Standard Operating Procedures (SSOPs) for Coastal Multi-Hazards Early Warning System Project.
6. Submitted the Terminal Report for SSOP project to ESCAP.

#### B. Overall Assessment of SSOP-I

The main results achieved on the project of SSOP-I were described as following:

- Result 1 – Implementation of recommendations from SSOP Project Kick-off Meeting and development of recommendations at the Pre-7th Integrated Workshop (IWS) Meeting on SSOP. (Discussed in previous Progress Report Number 1)
- Result 2 - Approval of the terms of reference (TORs) of the Steering Committee, Task Force and Project Manager/(Technical Advisor). Approval of the Implementation Plan. (Discussed in previous Progress Report Number 1)
- Result 3 - Selection of the Project Manager/(Technical Advisor) for the SSOP project. (Discussed in previous Progress Report Number 1)

Result 4 - Establishment of contacts for collaboration with organizations implementing similar projects under the same ESCAP Trust Fund and others. (Discussed in previous Progress Report Number 1)

Result 5 - Completion of Sub-Activity 1.1 which was to conduct a workshop for collecting and exchanging the performance status of coastal multi-hazard early warning system for the 13 beneficiary countries from the Typhoon Committee and the Panel on Tropical Cyclones involved in the project.

- Workshop held on 8-9 May, 2013 at the UN Conference Center in Bangkok, Thailand.
- Main objectives were: 1) collect and exchange information on the performance status of coastal multi-hazard EWS in the 13 beneficiary countries of this project who are Members of TC and PTC, and 2) share with the participants the experiences of experts on EWS from other agencies or organizations. The workshop was very successful - attended by 12 of the 13 beneficiary countries (Cambodia unable to attend but sent briefing).
- Highly collaborative event with experts on EWS from ABU, ADPC, ADRC, GAATES, IOC-UNESCO, RIMES, WMO, and both the Japanese and USA meteorological services actively participating. Through presentations and many discussions, objectives of the workshop were met. Conclusions related to this SSOP project included: 1) identified strengths, needs and gaps associated with SOPs; 2) required thematic and content for a successful Manual of Synergized Standard Operating Procedures (SSOP); and 3) opportunity for collaboration with various partners and other organizations.
- Other non-SOP related users' requirements identified were training and infrastructure capacity building.
- Recommendations included: 1) the project has great potential and needs to be completed; and 2) workshops should be conducted in September-October 2013 in three pilot countries (Philippines, Bangladesh, and Pakistan) by a team of experts to identify strengths, gaps, needs, and recommendations for EWS SOPs and content of the Manual of Synergized SOPs for Coastal Multi-Hazards EWS.

Result 6 - Completion of Sub-Activity 1.2 which was to pilot SSOPs project in 3 selected countries, focusing on institutional capacity building at all levels from the national level to the local level with main emphasis on the meteorological, hydrological, and disaster management services.

- Workshop purpose to: 1) review existing SOPs for coastal multi-hazards EWS for hydro-meteorological, disaster management, media, elected official, and others from national to local levels; 2) identify best practices, gaps and needs, and recommendations in both an agency's internal SOPs and also integrated SOPs among different agencies; and 3) develop action plan to build upon the best practices, fill the gaps and needs, and to review the recommendations to build institutional capacity.
- Three highly successful in-country pilot workshops were conducted: 3-4 October, 2013 Manila, Philippines; 6-7 October, 2013 Dhaka, Bangladesh; and 10-11 October, 2013 Islamabad, Pakistan.
- A highly collaborative international, multi-agency team consisted of: Jim Weyman, Project Manager/Technical Advisor (Philippines and Bangladesh); Olavo Rasquinho, Secretary TC (meteorological expert), TCS; Atiq Kainan Ahmed, disaster response expert, ADPC; Mr. Walter Welz, media expert, ABU (Philippines and Bangladesh); Mr. Nadeem Ahmed, media expert, ABU (Pakistan); and Ahmed Said Al Barwani, hydrological expert, PTC conducted the pilot workshops. Mr. Weyman was unable to get a visa for Pakistan in time, but did participate on several different occasions, especially during the



groups' presentations following the breakout sessions, via Skype from his home.

- Recurring themes for requirements for an effective EWS are: 1) high level government commitment and support; 2) legal and legislature framework; 3) collaboration and coordination at all levels – national, regional, and local; 4) media involvement as a partner; 5) a multi-hazard approach; and 6) fully implemented elements of a people-centered EWS.
- Strengths, gaps, and needs associated with SOPs varied among three pilot countries visited, varied within and between agencies within countries, and varied at different levels of government.
- Strengths identified fell into the following categories: 1) favorable framework for creating/maintaining SOPs; 2) excellent examples of existing SOPs; 3) systems to assist in detection, monitoring, forecasting, and warning services; 4) systems/situations to assist in dissemination and communications; 5) systems to assist in response/preparedness capacity; and 6) supporting MOUs in place.
- Main recommendation: SOP direction and guidance should come from the highest levels of government to mandate the need to disseminate, consult, and collaborate at all levels of government and mandate participation.
- Other identified needs and gaps fell into the following categories: 1) SOPs for specific areas; 2) integrated, cross-cutting SOPs; 3) testing and maintaining; 4) awareness of value and need for SOPs; and 5) MOU related items. The detailed three individual reports, one for each in-country pilot visited, and a short summary report of the three combined in-country visits can be consulted in <http://www.typhooncommittee.org/SSOP/indexSSOP.html>

Result 7 – In preparation for review and discussion at the pilot workshops, Project Manager compiled 5 documents. These documents were: 1) A Guide to Writing Effective SOPs for EWS; 2) Checklist for Effective SOPs for EWS; 3) Information on Early Warning System Overview; 4) Early Warning System Checklist Items; and 5) General Basic Information on Early Warning System for NHMS, Warnings, Communications, and Relationships. These may be useful in collaboration with other partner agencies.

Result 8 – Establishment of a web page at the Typhoon Committee web site (<http://www.typhooncommittee.org/SSOP/indexSSOP.html>) which will include the presentations given at the pilot workshops, the project documents and reports, other related documents.

Result 9 – Attended meetings of the ESCAP/WMO Typhoon Committee (TC) and of the WMO/ESCAP Panel on Tropical Cyclones (PTC) to coordinate, collaborate, and collect additional data/information for the Manual Framework on SSOPs for Coastal Multi-Hazards Early Warning System and for the planned training.

- ESCAP/WMO TC 8th Integrated Workshop (IWS)/2nd Training Research Coordination Group (TRCG) Forum, Macao, China, 2-6 December 2013. Project Manager/Technical Advisor and TC Secretary attended. Project Manager made a presentation on the project's objectives, expected outcomes, outputs, the status of the project (completed and planned activities). Discussions of the project were held with each working group (meteorology, hydrology, and disaster risk reduction) and with the TC Advisory Working Group. The attendees agreed that the focus of the 9th IWS would be on the results of the SSOP Project, tentatively titled, "Synergized, Integrated, Collaborative Standard Operating Procedures Strategies to Improve Early Warning System for Coastal Multi-hazards."
- WMO/ESCAP PTC Integrated Workshop, Bangkok, Thailand, 27-29 November 2013. The TC Secretary attended this workshop. He made a

presentation and had discussions similar to that described for the TC 8th IWS/2nd TRCG Forum.

- ESCAP/WMO TC 46th Annual Session Bangkok, Thailand, 10-13 February 2014. The TC Secretary attended this session and made a presentation on the status of the project on behalf of the Project Manager.
- WMO/ESCAP PTC 41st Annual Session, Dhaka, Bangladesh, 2-6 March 2014. The TC Secretary attended this session and made a presentation on the status of the project on behalf of the Project Manager.

Result 10 – Submitted to ESCAP a request for a no cost extension until 31 December 2014 for the project on 27 February 2014. This extension was approved on 14 March 2014. A revised, updated Term of Reference/Work Plan and Budget was submitted with this request.

Result 11 – Completed the initial draft of the Manual Framework on SSOP for Coastal Multi-Hazards Early Warning System on 6 February 2014 which was distributed to the Task Force Members on 13 March 2014. In addition, the Manual Framework was sent to partner agencies (ESCAP, other UN agencies, ADPC, GAATES, RIMES, IOC, and others for comment). Only a few responses were received by 30 April 2014. Additional data, comments, and inputs were planned to be solicited during the training 9-11 June 2014 and also during the mission visits to 6 countries by consultants.

Result 12 – Began planning for the “Training Workshop on Synergized Standard Operating Procedures for Coastal Multi-Hazards Early Warning System” to be held on 9-11 June 2014.

- Letters were sent to each of the 13 beneficiary countries asking for submission of names of people who will be attending the training. Each country could send up to 4 people from the various organizations involved in the EWS. It was suggested that one person from each of the following areas should attend: issuers, disaster managers, media, and decision-makers.
- An initial draft agenda for the training was sent on 13 April 2014 to TCS, PTCS, ESCAP, ADPC, ABU, GAATES, IOC-UNESCO, and Dr. Ono (Tohoku University in Japan) for comment. The agenda was revised several times based upon comments received before it was finalized.
- Scheduled lecturers included people from TCS, WMO, ADPC, ABU, Shanghai Typhoon Institute, Shanghai Meteorological Service, IOC-UNESCO, and IRIDES (Tohoku University).

Result 13 – Completed and distributed a SSOP Questionnaire for Targeted Countries on 17 April 2014 and asked for replies by 10 May 2014. Also distributed with the questionnaire were two sets of Terms of Reference (TORs) for the targeted countries, one set for the 6 countries with planned missions and one set for the other 7 countries.

Result 14 – Activity 2.1 Conduct Training. A Training Workshop on Synergized Standard Operating Procedures (SSOP) for Coastal Multi-hazards Early Warning System was conducted 09 – 11 June 2014 at the WMO Regional Training Centre (RTC) in Nanjing, China. The workshop was carried under Activity 2.1 - “Conduct training of users and issuers in the interpretation and preparation of EWS SOPs and products for decision-making, media, and communications”.

- The training consisted of lectures, presentations and training scenarios followed by very active discussions among participants, representatives of the beneficiary countries, and lecturers/trainers. The Workshop was attended by 33 participants from the beneficiary countries. Cambodia was the only SSOP project beneficiary country that did not send any representatives due to last minute bureaucratic problems.

- On the third day of the training, an exercise was conducted based upon a scenario of the approach of a tropical cyclone during three, two, one days before and when the cyclone hit the country. The participants were requested to analyze the situation, take decisions, and establish appropriate Standard Operating Procedures to the situation based upon the lectures the previous two days. In the morning, the participants were divided into three groups, warning preparers, DRR and decision makers and media. During the afternoon, three new groups were formed with warning preparers, DRR and decision makers, and media intermingled among the groups. After each session, group results were presented in a plenary session and extended discussion occurred. The results of the exercise, the discussions in each group, and the plenary discussions were 5 conclusions and 21 recommendations.

Result 15 – Activity 1.3 Mission Visits. To complete Activity 1.3 and to meet the success indicator, two teams of consultants visited 3 targeted countries each in the PTC region and TC region.

- The dates were: PTC Countries: Myanmar 4 - 5 August 2014; Sri Lanka 7 - 8 August 2014; and Maldives 10 -11 August 2014 and TC Countries: Malaysia 28-29 August 2014; Cambodia 1-2 September 2014; and Viet Nam 4- 5 September 2014.
- The consultants who conducted the missions were: PTC Countries: Dr. Yesudhas Eben Aruma Raj, Former Deputy Director General, Regional Meteorological Center, Chennai, India Meteorological Department; Mr. Abdul Majid, Former Director of National Flood Forecasting Bureau, Pakistan; and Mr. Ahmed Kamal, Member (Disaster Risk Reduction - DRR), National Disaster Management Authority, Prime Minister's Office, Pakistan and TC Countries: Dr. Tokiyoshi Toya, Former Regional Director for Asia and the South-West Pacific, WMO; Mr. Abdul Majid, Former Director of National Flood Forecasting Bureau, Pakistan; and Mr. Amir Ali Khan, Assistant Professor, National Institute for Disaster Management, New Delhi, India. As part of the project on Synergized Standard Operating Procedures (SSOP) for Coastal Multi-Hazards Early Warning System, three expert consultants, one on meteorology, one on hydrology, and one on disaster risk reduction, conducted a highly successful two-day mission to Malaysia on 28-29 August 2014.
- The main purpose of the missions were to collect and compile data, information, examples, and diagrams on standard operating procedures (SOPs), good practices, gaps and needs, and recommendations for inclusion in the SSOP Manual. The consultants reported that all six countries had national policies with roles and responsibilities but they varied significantly on the implementation of these policies. Some had excellent SOPs identifying specific tasks to be completed and these had been coordinated with other agencies and with different levels of government. Some had varying degrees of SOPs necessary for implementation of the national policy. All of the missions collected SOP examples, pictures, flow charts, diagrams, and ideas on items for inclusion in the SSOP Manual.

Result 16 – Activity 2.2 Cooperative Mechanism. A Working Meeting on Cooperative Mechanism for Coastal Multi-Hazards Early Warning Information Sharing and Technical Transferring between PTC and TC occurred on 9 – 10 October 2014 at the Swissotel Nai Lert Park, Bangkok, Thailand. The Meeting was attended by 22 participants which were mainly Chairpersons of the Working Groups on meteorology, hydrology and disaster risk reduction (DRR) of PTC and TC or their representatives; Heads of the Regional Specialized Meteorological Centers (RSMC) of Honolulu, New Delhi and Tokyo, or their representatives; Program Specialist in Early Warning Systems of Asian Disaster Preparedness Center

(ADPC); the Acting Administrator of PAGASA, and representatives of the Secretariats of ESCAP, WMO, PTC and TC. The main goal of the workshop was to create the basis for building a cooperative mechanism that is expected to support regular consultation and technical transfer between the PTC and TC regions through the exchange information on PTC and TC activities identify priority areas on information sharing and technical transferring between PTC and TC. As result of the discussions held in the parallel sessions and on the basis of the information exchanged during the working Meeting, the participants identified 6 conclusions and 12 recommendations to meet the overall goal of Activity 2.2.

- Result 17 – Completion of revision 2 of the SSOP Manual and send to consultants and TCS for comments on 28 October, 2014 with a request to provide overall comments, but also specific comments with specific recommended changes or examples. Additional examples or other graphic/pictorial items to be included in the Manual were also requested. Comments were received by 30 November 2014.
- Result 18 – Extension of Project. The project encountered great difficulties in hiring experts and achieving consensus among the 6 target countries and consultants concerning dates of the missions to complete Sub-Activity 2.1.5. The three-day missions were to conduct training of users and issuers in the interpretation and preparation of EW S SOPs and products for decision-making, media, and communications in 6 countries (3 from PTC and 3 from TC regions). Due to these difficulties, the TC Secretariat on 28 November 2014 formally requested an extension of the completion date of the project from 31 December 2014 to 31 May 2015. A revised, updated Term of Reference/Work Plan and Budget was submitted with this request. ESCAP approved this extension on 19 January 2015.
- Result 19 – Revision 3 of the SSOP Manual was sent to all associated agencies and personnel on 3 December for their comments to be provided by 19 December 2014. Because of the holiday seasons and other commitments, all of the comments were not received until 20 January 2015. TCS sent an additional request on 29 January 2015 to SSOP Steering Committee members, PTC Secretariat personnel, SSOP Project Task Force, Focal Points and representatives of Partners requesting an example of comprehensive and integrated approach for development of EWS; MOU examples; guidelines or SSOPs on the use of social media; examples of annotated picture and branching flowchart SOPs; and possible tsunami SOPs which could be developed into a multi-hazards framework. Sri Lanka kindly provided an example of a branching flowchart SOP and USA kindly provided guidelines on the use of social media.
- Result 20 – Activity 2.1 Mission Visits. To complete Activity 2.1 and to meet the associated success indicator, two teams of consultants visited 3 targeted countries each in the PTC region and TC region. The dates were: PTC Countries: Bangladesh 22, 25-26 January 2015; Maldives 18-20 January 2015, and Myanmar 28-30 January 2015 and TC Countries: Cambodia 19-21 January 2015; Lao PDR 23, 26-27 January; and Philippines 29-30 January, 2 February 2015. The consultants who conducted the missions were: for PTC Countries: Dr. Yesudhas Eben Aruma Raj, Former Deputy Director General, Regional Meteorological Center, Chennai, India Meteorological Department; Mr. Abdul Majid, Former Director of National Flood Forecasting Bureau, Pakistan; and Mr. Ahmed Kamal, Member (Disaster Risk Reduction - DRR), National Disaster Management Authority, Prime Minister's Office, Pakistan and for TC Countries: Mr. James T. Davidson, former Regional Director, Queensland, Bureau of Meteorology, Australia; Mr. Kenneth R. Kleeschulte, former hydrologist at the Lower Mississippi River Forecast Center and currently lead meteorologist at USA National Weather Service, Weather

Forecast Office Guam; and Mr. Amir Ali Khan, Assistant Professor, National Institute for Disaster Management, New Delhi, India. The main purposes of the mission visits were to:

- (a) Provide hands-on training and technical assistance on interpretation, preparation, and improvement of SSOPs for users and issuers;
- (b) Evaluate the draft SSOPs Manual by using it for hands-on training and technical assistance during the consultants' mission; and
- (c) Identify needed revisions and additions to incorporate into the SSOP Manual before finalizing for publication. The missions were very successful in accomplishing the missions' purposes. All of the participants were eager and excited and saw the importance of SSOPs.

The following are a few excerpts from the mission reports:

**Bangladesh.** "There was a very positive attitude of Bangladesh, but insufficient time available to finalize the SSOPs." "All the participants took part in the development process with full involvement, interest, and showed considerable initiation."

**Cambodia.** "Participants were keen and enthusiastic to take part in the discussions and development of the SSOPs." "The Director of the Department of Meteorology gave a commitment to continue to work on further development and finalization of the SSOPs."

**Lao PDR.** "The Mission to Lao PDR was most effective in achieving the main objectives. Participants were keen and enthusiastic to take part in the discussions and finalization of the SSOP." "DMH is looking forward to finalizing the SSOP within two weeks for further review."

**Maldives.** "The willingness of the MMS to establish an urban flood forecast system, the successful effort to write SSOPs, and the motivation and interested generated for SSOPs are success areas for the mission."

**Myanmar.** "The DRR Group experienced a paradigm shift with the ideas of integrated SSOPs in addition to the traditional stand-alone SSOPs". "For hydrology SSOP, there was the realization for the first time of the need to develop and implement multi-hazards and integrated SSOPs."

**Philippines.** In the final session, senior officers within PAGASA gave a commitment to continue to work with partners to first finalize and then operationalize the new SSOP by progressing it through administrative channels. They further suggested that more SSOPs might be developed with time not only at the national level but also at lower levels (Regional, Provincial and Local).

The Manual was used for training and SSOP development and participants made favorable comments on the usefulness of the SSOPs Manual. Since one of the main purposes of the mission was to provide hands-on training and technical assistance on interpretation, preparation, and improvement of SSOPs in only three days, the most used material from the SSOPs Manual was Module 6 (Writing Effective SSOPs), Appendix I (Basic SSOP Template and Example) and Appendix II (SSOP Checklist ). Thus in addition to the SSOPs Manual, a need was identified for an operational guide for an organization to quickly and easily start or review implementation of the SSOPs process.

The consultants' reports on the missions to the six countries were received 8-16 March 2015.

- Result 21 – SSOP Manual and Quick Reference Guide were sent out for final review. Between 16 March and 15 April 2015, the many comments and recommendations received from reviewers and from the six mission visits were incorporated into the Manual. In addition to the Manual, a Quick Reference Guide was developed based upon the need identified in the mission visits. It contains a summary of the basic ideas and methods for development and implementation of SSOPs. It is an operational guide for an organization to quickly and easily start or review implementation of the SSOP process. It provides ideas on SSOP format, SSOP examples, and a checklist for reviewing SSOPs. For areas where more information is required, different Modules within the SSOP Manual can be reviewed. In the Quick Reference Guide, it was recommended and encouraged to review the entire Manual to gain a better understanding of ways to promote community resilience and to improve the policy and institutional arrangements at all levels of government using integrated, effective SSOPs for multi-hazards EWS. The Manual and Quick Reference Guide were sent out for comments on 15 April 2015. Because of the tight project deadline, all comments were requested to be received by 6 May 2015.
- Result 22 – Evaluator’s Report. From April to May 2015, an evaluation was conducted by Mr. Mihir R. Bhatt from the All India Disaster Mitigation Institute. He (1) reviewed of all project documents; (2) reviewed and conducted an assessment of relevant country level and selected sectorial documents (3) interviewed project staff to ascertain effectiveness of the project design, planning and execution; (4) interviewed project-involved stakeholders; (5) conducted field missions to Cambodia and ESCAP; and (6) circulated a survey for those who could not be interviewed in person. He found “Outcome 1 (Integrated, effective standard operating procedures for coastal multi-hazard EWS for TC and PTC Members) and outcome 2 (Improved performance and effectiveness of SSOPs for coastal multi-hazards EWS in Members of TC and PTC through integration, synergization, cooperation, and training) were successfully achieved in most beneficiary countries. For fully achieving both outcomes in the 13 beneficiary countries and applying results of this project in other countries of TC and PTC, a SSOP Phase II would be advisable.” See Annex 3 for full report. Mr. Mihir R. Bhatt also provided a two-page Evaluation Brief for the End of Term Evaluation Report which is included (Annex 4)
- Result 23 – Publication of SSOPs Manual and Quick Reference Guide. After 6 May 2015, the Project Manager and TCS work together to incorporate the comments from the final review and to prepare and process the documents for publication. The final review of the Quick Reference Guide was completed 26 May 2015 and was published in May 2015 (See Annex 6). The final review of the SSOPs Manual was completed and distributed in June 2015 (See Annex 5). It should be noted that at the 3rd PTC/TC Joint Session, TCS requested that after the Manual and Quick Reference Guide were completed, Members should consider ways to make the best use of the documents and to share and discuss the 2 documents with other organizations and entities related to early warning systems.
- Result 24 – A project Audit was conducted by KPMG. The factual findings of the KPMG Report were total cash received from ESCAP in the Statement of Sources and Uses of Fund (the Statement) reconciled with the total deposits received according to the bank statements. Total Uses of fund as per the Statement reconciled with the total debit amount according to the bank statements, total payment amounts for each activity and each kind of cost natures per detailed trial balance were in agreement with the amounts reported as in note 1 to Statement. The selected payments compared to be in agreement. (See Annex 7).

## **C. Lessons Learned from Implementation of SSOP-I**

The experience gathered under the implementation of the SSOP project has been:

1. Workshops/training should be planned as far in advance as possible to coordinate agendas, attendees, venue, and visas. Often authorizations of the respective governments; responses to proposed agendas, objectives, and planned outcomes; and building a good working relationship requires a great deal of time and patience, many times more than expected;
2. For workshops/training on specific items, such as Standard Operating Procedures, it is advisable to get as many examples, ideas, and background material as possible before the meeting to increase the effectiveness and efficiency of the workshop;
3. Provide specific, detailed guidance for all scheduled presentations. This guidance should contain purpose, content, level of detail (most of the time emphasize high level), time constraints, and number of PowerPoint slides.
4. Provide specific guidance, direction, and expectations for each participant at workshops. It is believed this will make the workshop more efficient, but also allow each participant to feel involved and ownership in the actions and results of the workshop.
5. It is often difficult to receive timely responses to written documents, such as the SSOP Project Manual. Multiple, timely follow up emails are often necessary to receive responses. When possible, offering a small stipend based upon hours expended on the task can increase the number and timeliness of responses. Emails sent to individuals rather than a large group may result in more comments/inputs.
6. Consultants' missions to countries usually take 3-4 month to plan and prepare because of varying requirements for: approval by the government; coordinating mission dates (especially for multiple missions conducted after each other); issuance of invitation letters; scheduling travel; obtaining visas; agreeing upon an agenda; scheduling of consultants; work week differences; and country holidays and other commitments.
7. Extreme difficulty in selecting the dates for missions involving several countries and consultants, mainly in the fourth quarter of the year, due to some countries and consultants are not available.
8. Very expensive to hire experts, who are still performing functions in agencies or organizations, to work as consultants. The hiring of recently retired experts is much more affordable.
9. The inclusion of hands-on exercises in small groups, based upon specific scenarios, and based upon lecture material is needed to reinforce the lecture material and also to generate training-related conclusions and recommendations. Small groups allow all attendees to participate and the inclusions of their ideas.
10. The working level hands-on training and technical assistance on interpretation, preparation, and improvement of SSOPs conducted by consultants during the second consultancy mission was highly effective in evaluating the manual and getting the SSOP process started or renewed. These missions were conducted mostly with the people who will perform the tasks with management briefed at the beginning and end.
11. In the formulation of such projects, it is advisable to consider the costs related to a grant for participants in meetings, seminars or training activities in some countries. The practice in this project showed that it was necessary to consider this possibility.

#### **D. SUSTAINABILITY of SSOP-I**

The progresses towards ensuring that the SSOP-I project results in a long-term benefit to the project stakeholders may be briefed as below:

1. The long term goal of the project is to promote community resilience to coastal multi-hazards and to improve the policy and institutional arrangements at national, district, and community levels through integrated, effective standard operating procedures for multi-hazards EWS. Through the engagement of personnel from the targeted countries in pilot workshops, training workshop, mission visits, and electronic methods, the project is determining the strengths, gaps and needs of the targeted countries to ensure the SSOP Manual meets their current and future needs. Also through engagement of multiple agencies (warning issuers, disaster management, media, and decision makers), the project assists in sustainability by ensuring parallel, integrated activities to motivate each other to perform and update tasks in the future. Lastly, through the engagement of national, district, and community/local level personnel the system will reach the last mile/kilometer where the need is vital and again assists to motivate each other at different levels.
2. One of the two main outputs is "Regular communication and cooperation mechanism between TC and PTC on coastal multi-hazard early warning ...". Through the composition of pilot in-country team, conducting workshops TC and PTC countries, mission visits, various consultants, training workshop and the involvement of the Task Force members in the preparation of the manual, the project is implementing the regular communication and cooperation envisioned. As a result of this project, the Secretary of the TC and the Vice-chair of the TC Working Group on Hydrology attended the PTC first integrated workshop; the Secretary of the TC attended the 41st Annual Session of the PTC; and a combined 47th TC Annual Session and 42nd PTC Annual Session (3rd Joint Session) was held 9-13 February 2015.
3. Activity 2.2, Working Meeting on Cooperative Mechanism for Coastal Multi-Hazards Early Warning Information Sharing and Technical Transferring between PTC and TC, held 9-10 October 2014 created the basis for building a cooperative mechanism that is expected to support regular consultation and technical transfer between the PTC and TC regions. This will be done through the exchange and technical transfer of information and joint activities. The 12 recommendations from the meeting provide specific methods to ensure PTC and TC cooperation.
4. The long term goal of the project is too broad to be assured without continuity of the actions already carried out, to the extent that the project covered 13 countries and there were only training actions in 3 Members of PTC and 3 Members of TC. A second phase would certainly contribute to a greater sustainability.



## APPENDIX III

### Briefing the proposal for SSOP-II

Following the recommendation from 3rd Joint Session of TC and PTC: 'To develop a proposal for SSOP Phase II, based on the successful completion SSOP project, and submit to ESCAP for funding consideration', TCS drafted the proposal of SSOP-II and reported at the TC 10th IWS. Based on the comments from Members, TCS revised the documents and submitted the final version to ESCAP for applying the 10th round of ESCAP Trust Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and Southeast Asian Countries.

#### 1. BACKGROUND

Under the great support and guidance from ESCAP and WMO, and the close cooperation from Secretariats of TC and PTC, a series of international/regional organizations, beneficiary countries and targets groups, the project of Synergized Standard Operating Procedures (SSOP) for Coastal Multi-Hazards Early Warning System (hereinafter referred to as "SSOP-I") conducted successfully the proposed activities and achieved the expected outputs including compiling the Manual/Handbook of Synergized Standard Operating Procedures for Coastal Multi-Hazards Early Warning System.

The successful SSOP-I project is regarded as an excellent example on the cooperation on promoting the capacity building of multi-hazards early warning among two regional bodies. However, due to the limitation of budget and time, TC and PTC could not extend the results and achievements of the project to all their Members deeply and widely.

Therefore, it was suggested very strongly at the 3rd joint Session of TC and PTC (TC 47th Session and PTC 42nd Session) to request the Members, after the Manual is complete, to consider ways to make the best use of it, and to develop a proposal for SSOP Phase II, based on the successful completion SSOP-I project, and submit to ESCAP for funding consideration.

The SSOP Phase II is proposed to be mainly focused on the training on how to establish an appropriate standard operating procedure (SOP) based on the published SSOP Manual and on promoting the TC and PTC Members' capacity building on Multi-hazards Risk early warning based on existing technical achievement for National Meteorological and Hydrological Services (NMHSs) in proposed beneficiary countries.

#### 2. PROJECT TITLE

**SSOP Phase II: Implementation of Synergized Standard Operating Procedures (SSOP) for Coastal Multi-Hazards Early Warning System**

#### 3. ORGANIZATION SUBMITTING PROPOSAL

ESCAP/WMO Typhoon Committee Secretariat (TCS)

#### 4. FOCAL POINT

**Mr. YU Jixin**

Secretary of Typhoon Committee  
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## **5. BENEFICIARY COUNTRIES**

16 Countries in TC and PTC region: Bangladesh; Cambodia; China; India; Islamic Republic of Iran; Lao PDR; Malaysia; Maldives; Myanmar; Oman, Pakistan; Philippines; Sri Lanka; Thailand, Timor-Leste and Viet Nam.

## **6. TARGET GROUP (S)**

- National Meteorological and Hydrological Services (NMHSs) / National Tsunami Warning Centers (NTWCs)
- National Disaster Management Offices (NDMOs)
- Government sectoral agencies

## **7. TIME FRAME**

Expected implementation period: from 1 May 2016 to 31 October 2017, totally **18 months**

## **8. PROJECT STRATEGY (HOW TO IMPLEMENT SSOP-II)**

SSOP-II is the continuation of the project of SSOP-I, which has been close in May 2015. The purpose of SSOP-II is to extend the achievements among 16 beneficiary countries, and transit the existing technical methodologies on coastal multi-hazards early warning into productive forces so that to promote the capacity on disaster risk reduction.

The activities of SSOP-II will be mainly focused on the training the mechanism on how to establish and prepare an appropriate standard operating procedure (SOP) based on the published SSOP Manual and on promoting the TC and PTC Members' capacity building on Multi-hazards Risk early warning based on existing technical achievement for National Meteorological and Hydrological Services (NMHSs) in the beneficiary countries, and also on enhancement of mutual support between TC and PTC through the continuation of the project.

SSOP-II also will consider providing resources and opportunities to involve social scientists and warning experts from National Tsunami Warning Centres (NTWCs), National Disaster Management Offices (NDMOs), and Government sectoral agencies including national level, local level and community level to improve the training and capacity building on social science aspects of EWS, such as risk and impact assessment, warning communication strategies, partnership/stakeholder engagement, society response capability, etc.

## **9. GOAL OF SSOP-II**

The goal of the Project of SSOP-II is to promote the capacity on coastal community resilience to coastal multi-hazards through extending the achievement of SSOP-I in TC and PTC regions by conducting a series of training courses and workshops on the "mechanics" of preparing and implementing synergized standard operating procedures for coastal multi-hazards early warning system in beneficiary countries, aiming at the problems and gaps.

## **10. PARTNERS**

Following partners will be involved in the implementation of the project of SSOP-II and play their specific:

- ESCAP and WMO: will provide supervise and guidance for implementation of proposed SSOP-II;

- ABU, GAATES, IOC of UNESCO, UN-Women, RIMES; UNDP Asia-Pacific Regional Centre, IRIDeS and ADPC, ADRC: used to be partners of SSOP-I, may provide potential resources persons for SSOP-II;
- RSMCs in Tokyo, New Delhi and Honolulu, Shanghai Typhoon Institute (STI), etc.: may provide resource persons and technical support for SSOP-II;
- NMHSs, NTWCs, NDMOs of capable Members such as China; Hong Kong, China; Japan and Public of Korea: may provide resource persons and technical support for SSOP-II;
- WMO Nanjing Regional Training Centre (TC Training Centre), SYS University: may provide facilities for training courses and workshops of SSOP-II;
- The Secretariats of PTC (PTCS): in cooperative with TCS, will take the responsible for the provision of secretariat support for implementation of SSOP-II.

## 11. CAPACITY

During the implementation of SSOP-I project, Steering Committee composed of Secretaries of Tc and PTC, the technical advisor/project manager and Task Force composed of Working Group Chairpersons provided strong support on expertise and displayed immense courage and wisdom in coordination for success of SSOP. This capacity formed in the practice could ensure the smooth progress of SSOP-II.

The consultant team and resource persons formed in SSOP-I played very active and import role for success of Project in the past years. The expert team already involved with SSOP-I understand very well about the situation of coastal multi-hazards early warning in the regions of TC and PTC, and this team can be the potential candidates for implementation of SSOP-II as resource persons.

The resource persons for training courses and workshops are available from RSMs in Tokyo, New Delhi and in Honolulu as well as National Meteorological and Hydrological Services (NMHSs), National Tsunami Warning Centres (NTWCs), National Disaster Management Offices (NDMOs) and Government sectoral agencies of capable Members such as China; Hong Kong, China; Japan and Public of Korea, etc.

Through SSOP project, TC and PTC established close cooperation relationship with GAATES, IOC of UNESCO, UN-Women, RIMES; UNDP Asia-Pacific Regional Centre, IRIDeS. Those organizations would be available to provide support and cooperation for SSOP-II.

The Secretariats of TC (TCS) and PTC (PTCS) will take the responsible for the provision of secretariat support for implementation of SSOP-II. And TCS and PTCS could further explore with working groups on possible collaborations and activities related to this aspect for SSOP-II.

## 12. PROPOSED ACTIVITIES AND EXPECTED OUTCOMES

**Expected Outcome 1:** Promotion of society response capacity building in TC and PTC regions focusing on the "mechanics" of preparing and implementing SSOPs

**Activity 1:** *Conducting the training courses/workshops on mechanism of establishing and preparing SSOP for coastal multi-hazards EWS, focusing on social scientists, DRR experts and warning experts from NTWCs, NDMOs, and Government sectoral agencies to improve capacity building on social science aspects of EWS, such as risk and impact assessment, warning communication strategies, partnership/stakeholder engagement, society response capability, etc.*

- 1.1 Conducting Training Course on establishment of SSOP for coastal multi-hazards EWS mainly for social scientists with participation of DRR experts and warning experts from 16 beneficiary Countries of TC and PTC (3days in RTC, Nanjing)

***Indicator:*** about 50 participants joining the training course

- 1.2 Conducting Training Course/workshop on performance of SSOP of coastal multi-hazards EWS mainly for warning experts with participation of social scientists and DPP experts from 16 beneficiary Countries of TC and PTC (3 days in UNCC Conference Centre of ESCAP, BKK) (linked with TC 3<sup>rd</sup> TRCG Forum and 12<sup>th</sup> IWS in 2017)

**Indicator:** about 50 participants joining the training course/workshop

**Expected Outcome 2:** Promotion of capacity building on science and technology of early warning for severe weather in beneficiary Countries of TC and PTC

**Activity 2:** Conducting training courses/workshops on radar/satellite information utilization for Tropical Cyclone EW (tentatively)

- 2.1 Conducting Training Course on satellite and radar image interpretation and applications, including intensity assessment, structure analysis, high wind and rainstorm nowcasting, etc. (4 days in Vietnam)

**Indicator:** about 23 participants joining the training course

- 2.2 Conducting Training Course on storm surge/tsunami monitoring (3 days in Hong Kong, China)

**Indicator:** about 25 participants joining the training course

**Expected Outcome 3:** Promotion of capacity building on science and technology of early warning for urban flood risk EW in beneficiary Countries of TC and PTC

**Activity 3:** Conducting training courses/workshops on real-time operational Urban Flood Forecasting and Inundation Mapping (OSUFFIM)

- 3.1 Conducting Workshop on Innovative Technology for Urban Flood Risk EW (2 days in Bangkok, Thailand)

**Indicator:** about 35 hydrologists participating in the workshop

- 3.2 Conducting Training Course on Real-time Operational Urban Flood Forecasting and inundation Mapping (OSUFFIM) (3 days in SYS University, Guangzhou, China)

**Indicator:** about 15 hydrologists from selected pilot cities in TC and PTC joining in the training

#### • Outputs

**Main output 1:** Established pool of accredited and competent experts to administer the MHEWS, in appropriately resourced facilities, nationally and regionally.

**Main output 2:** established real-time EWS in selected 2-3 pilot cities.

**Main output 3:** established real-time OSUFFIM in selected 2-3 pilot cities.

### 13. PROPOSED IMPLEMENTATION SCHEDULE

Yr.	2016						2017											
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Mon.	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
		Months 2-6 ACTIVITY 1.1 (3 days in RTC, Nanjing-56 persons)																

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## 14. BUDGET

**TOTAL BUDGET (US\$):** ESCAP Trust Fund: US\$ 498,000.

### Break down by Activities:

Activity	Time Frame	Total (in USD)
<b>Activity 1</b>		
Conducting the training courses/workshops on mechanism of establishing and preparing SSOP for coastal multi-hazards EWS		
<b>1.1 Training Course one: 1.1 Conducting Training Course on establishment of SSOP for coastal multi-hazards EWS mainly for social scientists with participation of DRR experts and warning experts from 16 beneficiary Countries of TC and PTC (3 days in RTC, Nanjing)</b>		
1.1.1 Staff and other personnel costs		
Remuneration for Project Manager/Technical Advisor	Jun - Oct2016	4,000
Lecturers cost	Jun - Oct2016	7,200
1.1.2 Supplies, Commodities, materials		
Office supplies	Jun - Oct2016	1,400
1.1.3 Equipment, vehicles and furniture (including depreciation)		
1.1.4 Contractual Services		
1.1.5 Travel		
Travel for 56 Participants (Air-ticket and Lump Sum payment)	Jun - Oct2016	90,000
1.1.6 Transfers and grants to counterparts		
1.1.7 General Operating and other direct costs		
Organization Costs & other cost	Jun - Oct2016	3,700
1.1.8 Indirect support costs		
Indirect cost (4%)	Dec. 2016	4,252
Sub-Total		110,552
<b>1.2 Training Course Two: Training Course on performance of SSOP of coastal multi-hazards EWS mainly for warning experts with participation of social scientists and DRR experts from 16 beneficiary Countries of TC and PTC (3 days in UNCC Conference Centre of ESCAP, BKK) (linked with TC 3rd TRCG Forum and 12th IWS in 2017)</b>		
1.2.1 Staff and other personnel costs		
Remuneration for Project Manager/Technical Advisor	Apr-Aug2017	4,000

Lecturers cost	Apr-Aug2017	7,200
1.2.2 Supplies, Commodities, materials		
Office supplies	Apr-Aug2017	1,400
1.2.3 Equipment, vehicles and furniture (including depreciation)		
1.2.4 Contractual Services		
1.2.5 Travel		
Travel for 56 Participants (Air-ticket and Lump Sum payment)	Apr-Aug2017	79,000
1.2.6 Transfers and grants to counterparts		
1.2.7 General Operating and other direct costs		
Organization Costs & other cost	Apr-Aug2017	3,700
1.2.8 Indirect support costs		
Indirect cost (4%)	Sept2017	3,812
Sub-Total		99,112
Total		209,664
<b>Activity 2</b>		
Training Courses/Workshops on Radar/Satellite Information Utilization for Tropical Cyclone EW		
<b>2.1 Conducting Training Course on satellite and radar image interpretation and applications, including intensity assessment, structure analysis, high wind and rainstorm nowcasting, etc. (4 days in Japan)</b>		
2.1.1 Staff and other personnel costs		
Remuneration for Project Manager/Technical Advisor	Jul-Nov2016	4,000
Lecturers cost	Jul-Nov2016	4,800
2.1.2 Supplies, Commodities, materials		
Office supplies	Jul-Nov2016	1,000
2.1.3 Equipment, vehicles and furniture (including depreciation)		
2.1.4 Contractual Services		
2.1.5 Travel		
Travel for 28 Participants (Air-ticket and Lump Sum payment)	Jul-Nov2016	65,000
2.1.6 Transfers and grants to counterparts		
2.1.7 General Operating and other direct costs		
Organization Costs & other cost	Jul-Nov2016	4,000
2.1.8 Indirect support costs		
Indirect cost (4%)	Dec2016	3,152
Sub-Total		81,952
<b>2.2 Conducting Training Course on storm surge/tsunami monitoring (3 days in Hong Kong)</b>		
2.2.1 Staff and other personnel costs		
Remuneration for Project Manager/Technical Advisor	Mar-Jul2017	3,000
Lecturers cost	Mar-Jul2017	3,600
2.2.2 Supplies, Commodities, materials		
Office supplies	Mar-Jul2017	800
2.2.3 Equipment, vehicles and furniture (including depreciation)		
2.2.4 Contractual Services		
2.2.5 Travel		
Travel for 28 Participants (Air-ticket and Lump Sum payment)	Mar-Jul2017	62,000
2.2.6 Transfers and grants to counterparts		
2.2.7 General Operating and other direct costs		
Organization Costs & other cost	Mar-Jul2017	4,000
2.2.8 Indirect support costs		
Indirect cost (4%)	Sept2017	2,936
Sub-Total		76,336

Total		158,288
<b>Activity 3</b>		
Training Courses/Workshops on Urban Flood Risk EW		
<b>3.1 Workshop on Innovative Technology for Urban Flood Risk EW (2 days in BKK)</b>		
3.1.1 Staff and other personnel costs		
Remuneration for Project Manager/Technical Advisor	Jun-Oct2016	3,000
Lecturers cost	Jun-Oct2016	2,400
3.1.2 Supplies, Commodities, materials		
Office supplies	Jun-Oct2016	1,000
3.1.3 Equipment, vehicles and furniture (including depreciation)		
3.1.4 Contractual Services		
3.1.5 Travel		
Travel for 38 Participants (Air-ticket and Lump Sum payment)	Jun-Oct2016	60,000
3.1.6 Transfers and grants to counterparts		
3.1.7 General Operating and other direct costs		
Organization Costs & other cost	Jun-Oct2016	4,000
3.1.8 Indirect support costs		
Indirect cost (4%)	Dec2016	2,816
Sub-Total		73,216
<b>3.2. Training Course on Real-time Operational Urban Flood Forecasting and inundation Mapping (3 days in SYS University, Guangzhou, China)</b>		
3.2.1 Staff and other personnel costs		
Remuneration for Project Manager/Technical Advisor	Nov2016-Mar2017	3,000
Lecturers cost	Nov2016-Mar2017	3,600
3.2.2 Supplies, Commodities, materials		
Office supplies	Nov2016-Mar2017	546
3.2.3 Equipment, vehicles and furniture (including depreciation)		
3.2.4 Contractual Services		
3.2.5 Travel		
Travel for 18 Participants (Air-ticket and Lump Sum payment)	Nov2016-Mar2017	32,000
3.2.6 Transfers and grants to counterparts		
3.2.7 General Operating and other direct costs		
Organization Costs & other cost	Nov2016-Mar2017	2,000
3.2.8 Indirect support costs		
Indirect cost (4%)	Sept2017	1,646
Sub-Total		42,792
Total		116,008
<b>4. Monitoring &amp; Evaluation</b>		
4.1 Staff and other personnel costs		
Audit professional costs	Aug - Sept 2017	6,500
Evaluation costs	Aug - Sept 2017	7,000
4.2 Supplies, Commodities, materials		
4.3 Equipment, vehicles and furniture (including depreciation)		
4.4 Contractual Services		
4.5 Travel		
4.6 Transfers and grants to counterparts		
4.7 General Operating and other direct costs		
4.8 Indirect support costs		
Indirect cost (4%)	Sept2017	540
Total		14,040

<b>Grand total</b>		<b>498,000</b>
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## 15. ACKNOWLEDGEMENT

TCS received the comments and inputs from Olavo Rasquinho (former Secretary of TC), James Weyman (project manager/technical advisor of SSOP-I), TC LEE of HKO, Taoyong PENG of WMO and Xiaotu LEI of STI, also got the guidance and advice from Alf Ivar Blikberg of ESCAP.

## 16. SUMMARY

1	ORGANIZATION SUBMITTING PROPOSAL	ESCAP/WMO Typhoon Committee Secretariat (TCS)
2	FOCAL POINT AT ORGANIZATION AND RELEVANT CONTACT INFORMATION	<b>Mr. YU Jixin</b> Secretary of Typhoon Committee Avenida de 5 de Outubro, Coloane-Macau, China Tel: +853 88010531; Fax:+853 8801 0530 Email: <a href="mailto:yujx@typhooncommittee.org">yujx@typhooncommittee.org</a> <a href="mailto:info@typhooncommittee.org">info@typhooncommittee.org</a>
3	PROJECT TITLE	SSOP Phase II: Implementation of Synergized Standard Operating Procedures (SSOP) for Coastal Multi-Hazards Early Warning System
4	BENEFICIARY COUNTRIES	16 Countries in TC and PTC region: Bangladesh; Cambodia; China; India; Islamic Republic of Iran; Lao PDR; Malaysia; Maldives; Myanmar; Oman, Pakistan; Philippines; Sri Lanka; Thailand, Timor-Leste and Viet Nam.
5	TARGET GROUP(S)	<ul style="list-style-type: none"> <li>National Meteorological and Hydrological Services (NMHSs) / National Tsunami Warning Centers (NTWCs)</li> <li>National Disaster Management Offices (NDMOs)</li> <li>Government sectoral agencies</li> </ul>
6	TIME FRAME	18 months: expected period From 1 July 2016 to 31 December 2017
7	TOTAL BUDGET (US\$) AND BREAKDOWN OF FUNDING SOURCES	ESCAP Trust Fund: <b>US\$498,000</b>